Discussion

In ML patients with comparable pretransplant performance status, there were no statistical differences in complications, engraftment, cell count yield, cell viability, days of apheresis, platelet transfusions, or mobilization regimen between older and younger patients receiving autografts. However, younger patients appeared to require greater RBC blood product support (p=0.05). Our data suggests that older ML patients with good performance status can be treated with autologous stem cell treatment strategies comparable to those developed for younger patients.

Variables/Age Group	Results <60 (N=23)	≥60	p-value
Age (years)	43.9 {38.7, 49.1}	62.9 {60.5, 65.3}	<.0001
Days of Apheresis	2.87 {2.33, 3.41}	2.22 {1.48, 2.97}	0.18
CD_{34} yield	5.06 {3.91, 6.20}	6.01 {3.37, 8.65}	0.28
Viability Day 1	83.8 {80.6, 87.0}	87.8 {83.4, 92.1}	0.15
Viability Day 2	84.5 {80.0, 88.2}	83.6 {74.8, 92.4}	0.76
Viability Day 3	82.9 {76.7, 89.0}	80.3 {53.5, 107}	0.57
Days to ANC Engraftment	12.7 {11.6, 13.8}	12.0 {10.3, 13.7}	0.47
Days to PLT Engraftment	15.5 {14.0, 17.0}	15.2 {13.6, 16.8}	0.75
Number of PLT Transfusions	3.17 {2.14, 4.21}	3.00 {1.41, 4.58}	0.95
Number of RBC Transfusions	3.96 {2.74, 5.18}	2.11 {1.35, 3.09}	0.05
Mobilization Regimen (%G)	57	67	0.70
Death <100 Days	4.4	0	1.00
Mucositis II-IV <30 Days	30.4	0	0.15
Sepsis <30 Days	8.7	22.2	0.56
Pneumonia <30 Days	8.7	0	1.00
Karnofsky Score	97	99	1.00

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OUTCOME WITH A THIOTEPA CONTAINING REGIMEN AND AUTOLOGOUS HSCT IN PATIENTS WITH NHL

Cumpston, A.D.[1], Bulian, D.A.[1], Kanate, A.[1], Weisenborn, R.[1], Bunner, P.[1], Viswesbwar, N.I.[1], Craig, M.[1], Ericson, S.G.[1] [1]West Virginia University Hospitals, Morgantown, WV.

Introduction: High dose chemotherapy and autologous hematopoietic stem cell rescue offers patients with advanced non-hodgkin lymphoma (NHL) a chance for long-term survival and cure. The role of thiotepa in this approach is still unknown, and little data with long-term follow-up has been published. The best chemotherapy regimen prior to stem cell infusion for patients with NHL remains unknown.

Methods/Outcome: Twenty-nine patients with advanced NHL were treated with high dose VP-16, cyclophosphamide, and thiotepa followed by autologous HSC rescue from 1993-2006. Median age was 53 (range 27-69), and all patients except 2 were beyond CR1. Overall survival and disease-free survival were 76% and 66% respectively at a median follow-up of 44 months. Five patients relapsed, with a median time to relapse of 150 days after transplant (range 82-300 days). Treatment related mortality was 10% (3/29); all 3 died from infectious complications before day 50. One patient developed treatment-related myelodysplasia.

Conclusion: An aggressive preparative regimen for autologous HSCT containing thiotepa offers patients a significant chance for long-term disease-free survival. However, caution is recommended due to early infectious complications.

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IMMUNE MOBILIZATION OF AUTOLOGOUS PERIPHERAL BLOOD PROGENITOR CELLS: IL-2 WITH GM-CSF AND G-CSF RESULTS IN EFFECTIVE MOBILIZATION WITHOUT DELAY IN ENGRAFTMENT

Hill, J.M.[1], Wu, J.-Y.[1], Webber, S.[1], Sharlin, O.[1], Ernstoff, M.S.[1], Szczepiorkowski, Z.M.[1], Meehan, K.P.[1] [1]Dartmouth Hitchcock Medical Center, Lebanon, NH.

We initiated an immune mobilization trial in an attempt to mobilize cytotoxic effector cells, along with CD34+ hematopoietic progenitor cells. A Prospective Phase I trial was initiated using dose escalation of IL-2, in combination with GM-CSF and G-CSF. IL-2 began on Day 0 and continued as a daily SQ injection for 11 days. On Day 7, GM-CSF (7.5 mcg/kg/d) and G-CSF (5 mcg/kg/d) were initiated for 5 days (Days 7-11). On Day 11, leukapheresis was started if the peripheral blood CD34 + cell count was ≥ 5 cells/mcl. The endpoint of collection was $\geq 3 \times 10^6$ CD34+ cells/kg. After collection, patients received melphalan (200 mg/m^2) followed by infusion of cryopreserved stem cells. Post-transplant GM-CSF began on Day +5 and terminated once the ANC reached 5000 cells/mcl. To date, 10 patients have been treated (myeloma, n = 9; NHL, n = 1) and 9 patients are evaluable. Dose escalation of IL-2 continues since the MTD has not been reached. The first two dose levels of IL-2 have been well tolerated: Dose Level 1 (6×10^5 IU/m^2/d; n = 6 pts); and Dose Level 2 (1×10^6 IU/m^2/d; n = 3 pts). One patient has completed Dose Level 3 (1.5×10^5 IU/m^2/d) without difficulty. One patient (NHL) was removed from the study due to progressive disease. The remaining 9 patients completed the regimen. Toxicities have been mild and have included Grade 2 fever (n=1) on Dose Level 2. All patients were successfully mobilized. The median number of CD34+ cells/kg and MNC/kg collected were 3.4×10^6 (range $2.8 - 4.4 \times 10^6$/kg) and 9.5×10^8 (range $0.4 - 1.7 \times 10^9$), respectively. Two large volume leukaphereses were required (median; range 1 – 3). Following transplant, the ANC recovered on Day 13 (median; range: 10 – 14 d) and platelets recovered on Day 12 (median; range 0 – 13 d). These preliminary results demonstrate that immune mobilization and collection of an adequate number of hematopoietic progenitor cells is feasible without suppression of hematopoiesis. Toxicities are minimal but the MTD of IL-2 has not yet been reached. Post-transplant engraftment is not delayed. As patient accrual continues, we are currently evaluating the qualitative and quantitative components of the collected cells, including Th1 vs. Th2 cells and the types of dendritic cells mobilized, while evaluating lymphocyte recovery following transplant.

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AUTOLOGOUS HEMATOPOIETIC CELL TRANSPLANTATION (AUTO-HCT) IN CHRONIC LYMPHOCYTIC LEUKEMIA (CLL): RESULTS OF A SYSTEMATIC REVIEW

Kharfan-Dabaja, M.A.[1], Kumar, A.[1], Behera, M.[1], Field, T.[1], Ayala, E.[1], Perez, L.[1], Fernandez, H.[1], Anasetti, C.[1], Djulbegovic, B.[1] [1]H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

Background: Despite improvements in responses, CLL remains incurable with conventional chemotherapy (CC). About 1/3 of patients are < 60 yrs, and are offered experimental therapies including high-dose chemotherapy (HDT) and auto-HCT. The objective of this study is to present the totality of the evidence by conducting a systematic review to assess the efficacy of auto-HCT in the treatment of CLL. **Methods:** A systematic search of the literature was performed using MEDLINE databases (1966- Sep 12, 2006) and handsearch of references. Included studies were prospective-randomized, non-randomized or single-arm trials. Data were extracted on primary outcomes (response rate (RR), overall survival (OS), progression-free survival (PFS) etc.). **Results:** Our search identified altogether 82 publications. Only 8 met our pre-determined inclusion criteria (table1). In this cohort of 8 trials, 2 trials were funded by public/government sources, 2 by private foundations, 1 was funded jointly by